

4 January 1955

MEETING BETWEEN [ ] AND CONTRACTING AGENCY HELD 13 DECEMBER 1954<sup>25X1</sup>  
AND 14 DECEMBER 1954.  
Contract No. RD-71 (H-2026)<sup>25X1</sup>

13 December 1954

[ ] of the Contracting Agency was escorted to Plant 2 by [ ] While at Plant 2, [ ] was introduced to [ ] of the Transistor Research Division. [ ] presented the overall transistor program being undertaken by [ ] and indicated the present state of the art and what was to be expected in the future. One of the highlights of this discussion concerned the feasibility of operating the production type SBT's at frequencies as high as 30 Mc. [ ] confirmed the information previously given to [ ] that by selecting the upper 20 to 25% of the distribution of SBT's now being produced, gains in the order of 6 to 8 db could be realized at 30 Mc. <sup>25X1</sup>

[ ] demonstrated crystal-growing equipment and manufacturing processes for the SBT. He also reviewed the developmental status of Germanium and Silicon transistors and diffused junction diodes. <sup>25X1</sup>

[ ] demonstrated equipment for measuring transistor characteristics and discussed some of the new types of circuits that were being experimented. <sup>25X1</sup>

At the conclusion of the tour, [ ] discussed the possibilities of designing a receiver to operate at frequencies as high as 30 Mc. [ ] agreed to submit a resume of techniques that might be incorporated and would indicate what realistic specifications might be for such a device. <sup>25X1</sup>

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Those present at the meeting were:

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[ ]

[ ]

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The over-all progress to date was outlined by [ ] 25X1  
The ensuing discussion then turned to the particulars of the mechanical design. [ ] stated that the use of certain standard 25X1 components as imposed by the specifications or auxiliary equipment requirements have presented packaging difficulties. Those of paramount importance were switches, tip jacks, and binding posts. It was pointed out that very small components of this variety can be fabricated by outside suppliers but tooling or mold charges would be prohibitive. [ ] is therefore modifying existing part 25X1 and designing new parts compatible to the receiver size, with full confidence that component suppliers will be capable of fabricating these parts in a production run.

The changes in the packaging philosophy were discussed briefly. It was pointed out that the original conception of potted cubes had given way to printed circuits because of the prohibitive mounting volume required by the cubes.

The drawings of the tuner design and electronics chassis layout were then reviewed. The discussion included the following points of interest.

1. [ ] suggested that the BFO on-off switch might be 25X1 made an integral part of the BFO tuning control. This could be accomplished by fabricating a rod on the stator which would short out the rotor when the control was turned 180° with respect to center frequency. This, in effect, would short out the BFO tank circuit and thus kill the oscillation. [ ] stated that 25X1 no serious detuning effect of the detector input would result and that the scheme appeared practical and would be investigated further.

2. [ ] indicated that present plans call for 25X1 the tuner control knob to be of the pull out variety, since recessing of the knob to permit accessibility results in considerable loss of volume. [ ] was receptive to this design philosophy. 25X1

3. It was pointed out that four pole single throw switch was under consideration as the on-off switch of the receiver. This would entail the requirements that when an external power source was being used the internal batteries should be removed in order to protect the mercury cells from rapid deterioration. [ ] 25X1 suggested that the switch might be made an integral part of the power connector to permit double throw operation without requiring substantially greater volume. In this manner removal of the internal batteries for external operation would not be required. [ ] 25X1 personnel agreed to investigate the feasibility of this approach.

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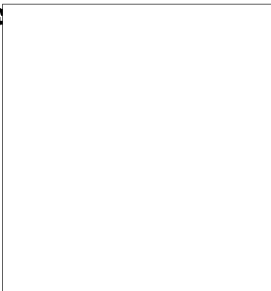
4. [ ] called the attention to a small push to insert binding posts that is on the market and agreed to furnish more detailed information. It was not known whether this component was waterproof. [ ] also expressed the belief that a centralab volume control might be of somewhat reduced size compared with the type being investigated. [ ] agreed to follow up on this item. 25X1 25X1 25X1

5. [ ] indicated that it might be advisable to have an additional volume control rather than AGC because of the reduced number of components required and because the daily bias level would be critical with temperature. [ ] believed that this would be acceptable. 25X1 25X1

6. [ ] stated that the BFO control should have the following markings: "Off", a graduation for -1 kc. and + 1 kc. and center frequency, "c.f.". 25X1

[ ] discussed the over-all circuit design of the receiver. One of the highlights of this discussion was tantalytic capacitors which [ ] believes to be necessary in an attempt to meet the over-all size requirements. A good deal of information has been obtained from the suppliers and it appears that tantalytics will be acceptable if their limitations are kept in mind. 25X1 25X1

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Project Engineer

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